WELL DECOMMISSIONING
ON THE LUMMI INDIAN RESERVATION
DURING 2010

Prepared for:

Water Resources Division
Natural Resources Department
Lummi Indian Business Council

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Prepared by:

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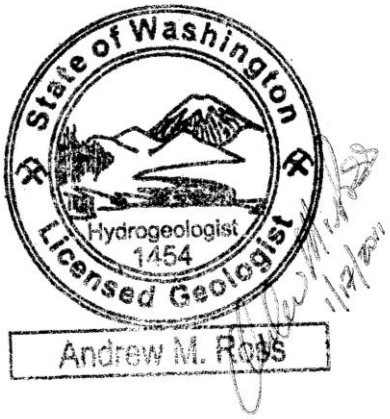

January 2011

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1. INTRODUCTION

The Lummi Indian Reservation (Reservation) is located along the Western Boundary of Whatcom County in the northwestern part of Washington State (Figure 1). Ground water is the primary source for domestic, commercial, municipal, and industrial potable water supplies on the Reservation. Individual water supply wells (wells) that served one or more homes and/or facilities were the primary source of water supply prior to the formation of the Lummi Water District in the 1970s. Over time, many of these wells have been abandoned due to unsuitable water quality and/or as the Lummi Water District provided water to homes and other facilities. As an example, wells of the former Gooseberry Point Community and Water Association (now known as the Gooseberry Point Community Association), were transferred to the Lummi Indian Business Council (LIBC) as part of a water system integration project.

Contamination of Reservation ground water is one of the three potential nonpoint source impairments identified in the Lummi Nation Nonpoint Source Management Program (LWRD 2002). Abandoned wells that are not properly decommissioned could lead to direct contamination of ground water through conveyance of pollutants associated with storm water or through other means. Decommissioning of wells is consistent with actions identified in the Lummi Nation Nonpoint Source Management Program to address saltwater intrusion into Reservation aquifers (see Table 3.6 in LWRD 2002) and contamination of Reservation ground water (see Table 3.4 in LWRD 2002).

The Lummi Natural Resources Department (LNR) obtained a grant from the U.S. Environmental Protection Agency (EPA) to decommission abandoned water supply wells on the Reservation (Assistance Identification No. BG-97042602-3).

The well decommissioning effort was initiated during 2006 and seven wells were decommissioned during calendar year 2006. No wells were decommissioned during 2007, five wells were decommissioned during 2008, and two wells were decommissioned in 2009. In 2009, the wellhead of one monitoring well was improved. This report is a summary of the well decommissioning effort conducted during the 2010 calendar year. This document is organized into six sections and has two appendices. This first section is the introduction, the second section describes the methods used to decommission the selected wells, the third section presents the results, the fourth section discusses the overall well decommissioning effort, the fifth section contains conclusions, and the sixth section lists the cited references. Appendix A contains the results of the evaluations performed on each well to determine if the well should be decommissioned. Appendix B contains the Water Well Decommissioning Reports completed by B&C Well Drilling for each decommissioned well.

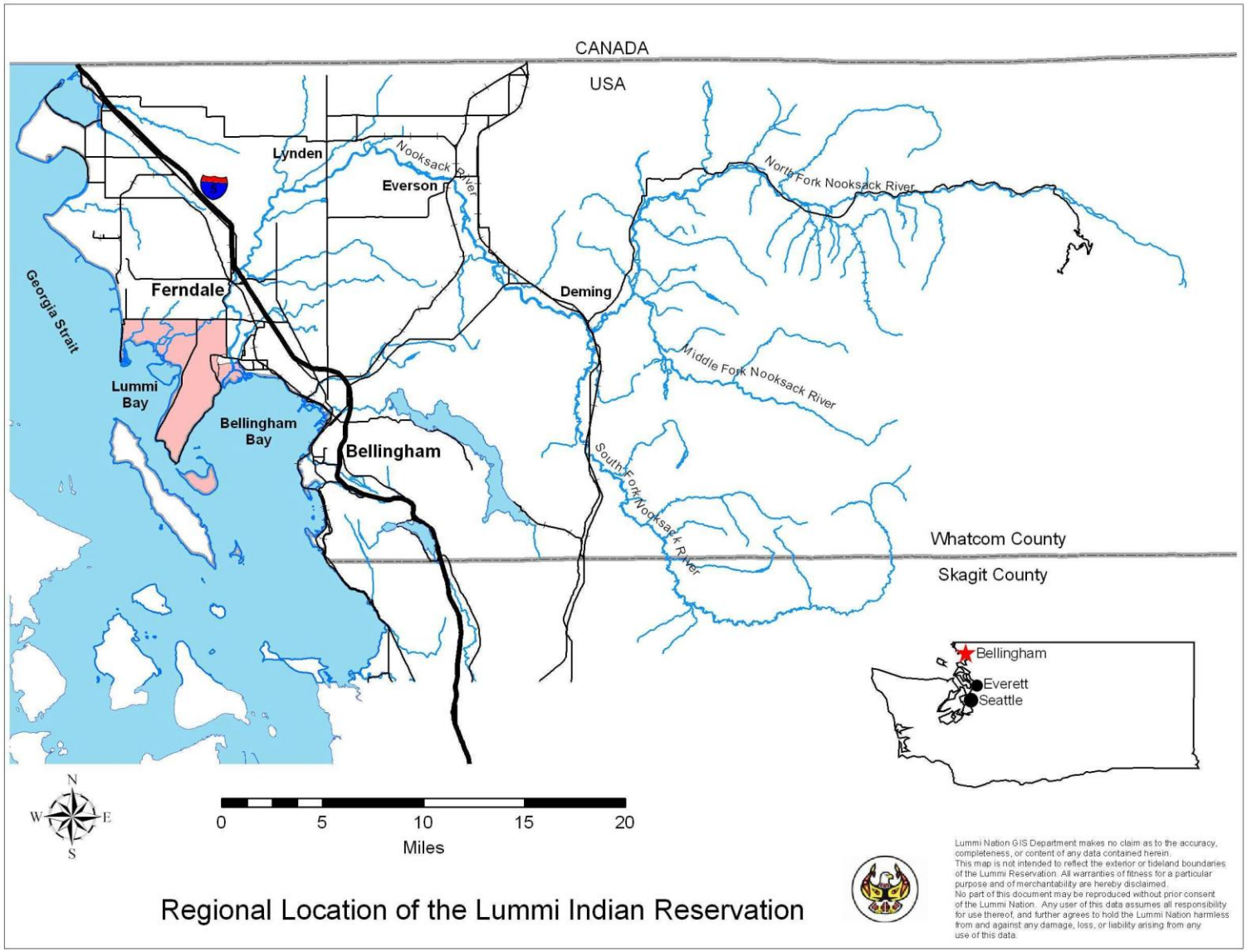


Figure 1. Regional location of the Lummi Indian Reservation.

2. METHODS

Contractors were used to conduct the well decommissioning activities during 2010. The Lummi Natural Resources Department (LWRD) selected B&C Well Drilling, Inc. (B&C) following a competitive bid process during 2006 to perform the decommissioning. Salix Environmental Services (Salix) was selected following a competitive bid process earlier in the year (2010) to provide logistical support, coordination, and documentation of the well decommissioning work performed by B&C. Due to budget limitations, direct oversight was not provided by Salix for one of the wells decommissioned in 2010 (Hutchinson).

The approach to decommissioning or improving water wells consisted of 1) identifying candidate wells and obtaining landowner permission, 2) evaluating each candidate well against criteria to determine if the well should be used as a monitoring well or decommissioned, and 3) decommissioning or improving selected wells.

During the fall of 2010, the six wells that were not decommissioned in 2009 (2009 wells), as well as three additional wells, were initially identified as candidates for decommissioning. However, due to logistical constraints, five of the six 2009 wells could not be addressed in 2010. The 2010 effort did not start until the fall, when soils were no longer dry and considerably more effort would be required to decommission five of the six 2009 wells. The three wells identified in 2010 were evaluated and it was found that they should be decommissioned. Landowner permission was obtained for two of the three 2010 wells, and for the one of the six 2009 wells that could be decommissioned during the wet season. The one 2010 candidate well that was not decommissioned in 2010 was not out-of-use by November 30, 2010, which eliminated consideration for decommissioning in 2010. Due to budget constraints, only a few wells could be decommissioned in 2010, which is why the Nov. 30, 2010 deadline was used. The initial evaluation was led by Salix and guided by Jeremy Freimund (Water Resources Manager, LWRD).

As part of the well decommissioning activities, well locations were identified in the Lummi Nation Geographic Information System (GIS), which includes locations provided by Licensed Surveyors or high resolution aerial photograph (Pictometery) coordinates for the three wells decommissioned or improved in 2010. However, elevation control for one well was poor and would require at least a level survey to obtain a more accurate elevation.

The well decommissioning procedures described in the Uniform Joint Technical Requirements adopted as Exhibit G of the settlement to the lawsuit, *United States, Lummi Nation v. Washington State Department of Ecology, et al*, Civil Action No. C01-0047Z (U.S. District Court, Western District of Washington) were used to decommission the wells. The Water Resources Manager reviewed and approved the decommissioning and improvement methods for two of the three selected wells (Salix did not provide direct oversight for the other decommissioned well, which was conducted while the Water Resources Manager was unavailable). In general, drilled wells were decommissioned by removing all obstructions, perforating the casing, then placing a bentonite slurry from the bottom of the well to the top, followed by cutting the top of the casing off below the ground surface, placement of a secondary seal, and filling the area immediately over the well with topsoil. In one well located inside a very small structure attached to a home, unhydrated bentonite

chips were poured into the well by hand. The third well was decommissioned by placing unhydrated bentonite chips into the well to about three feet below ground surface, and filling the rest with concrete.

Figures 2 through 5 are pictures of the various steps of decommissioning a drilled well (they are not all pictures of the same well). Figure 6 illustrates a secondary seal.

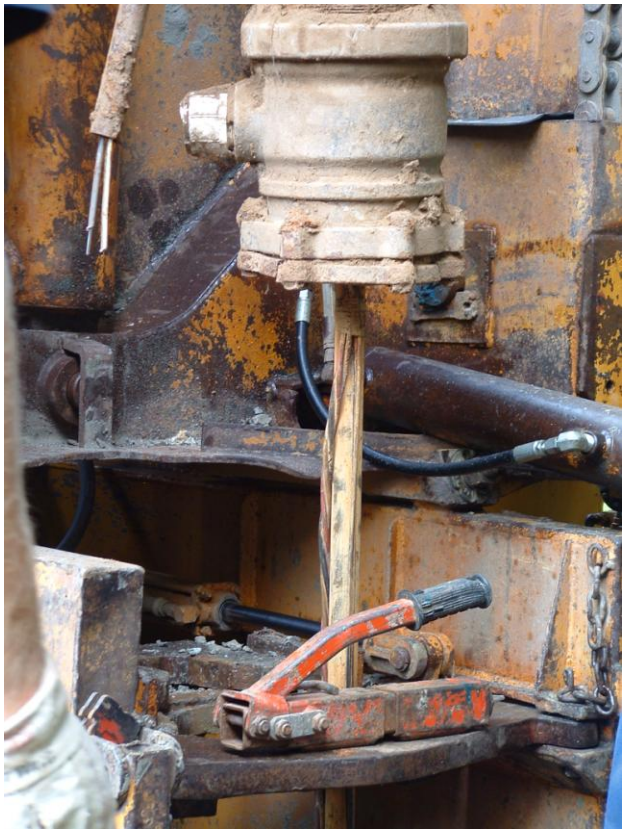


Figure 2. Removal of the pump and associated plumbing from a well (different wells). The lower picture shows a type of pitless adapter common to municipal water supply wells drilled on Reservation in the 1970s. The bottom of the pitless adapter connected below grade to the top of a six inch diameter casing and at the top to a seven inch diameter casing that extended to 1.85 ft. above the ground surface (Well No. 89 and similar to Well No. 128).

(a)


(b)

Figure 3. Well perforation operation shown in (a) and (b) shows the perforation tool (in different wells).

(a)

(b)

Figure 4. Placement of bentonite slurry. Photo (b) shows unhydrated bentonite chips placed around the top of the casing near the end of placement of bentonite slurry into the well. This was done to eliminate dirt filling of the annular space that is part of the secondary seal.

(a)

Figure 5. Burial and final grade of the decommissioned well. Completion of the secondary seal (a) and final grade (b) (shovel marks location of the decommissioned well).

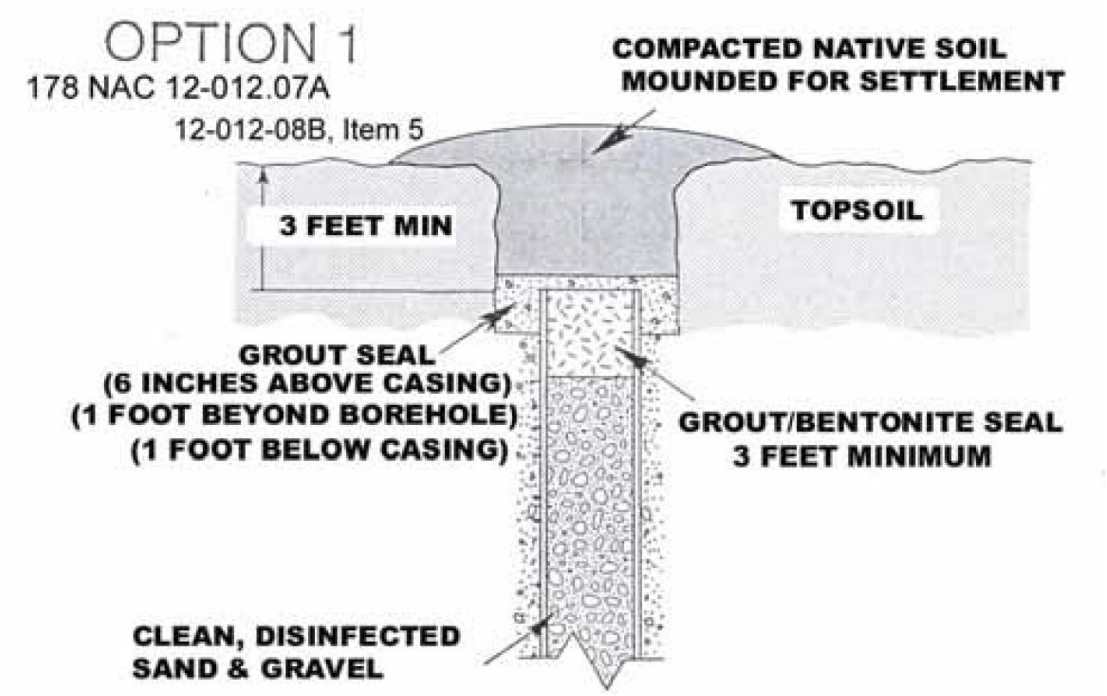


Figure 6. Illustration of secondary seal. The "Grout Seal" above is the 'secondary seal" that was utilized for well decommissioning (from Nebraska Health and Human Services, Title 178, Chapter 12, Figure 11).

3. RESULTS

Three wells were decommissioned in 2010 (Table 1, Figure 7, Appendix A). This section provides summary documentation of the work on each of the three wells. Appendix B contains the Water Well Decommissioning Reports completed by B&C for each decommissioned well. Note that the weight of one "bag" of unhydrated bentonite chips or bentonite slurry is 50 lbs.

Table 1. List of wells selected to be decommissioned.

Lummi No.	TRS Code	Well Decommissioned or Improved?
128	38N/01E-34J02	Decommissioned
175	37N/01E-02K05	Decommissioned
651	--	Decommissioned

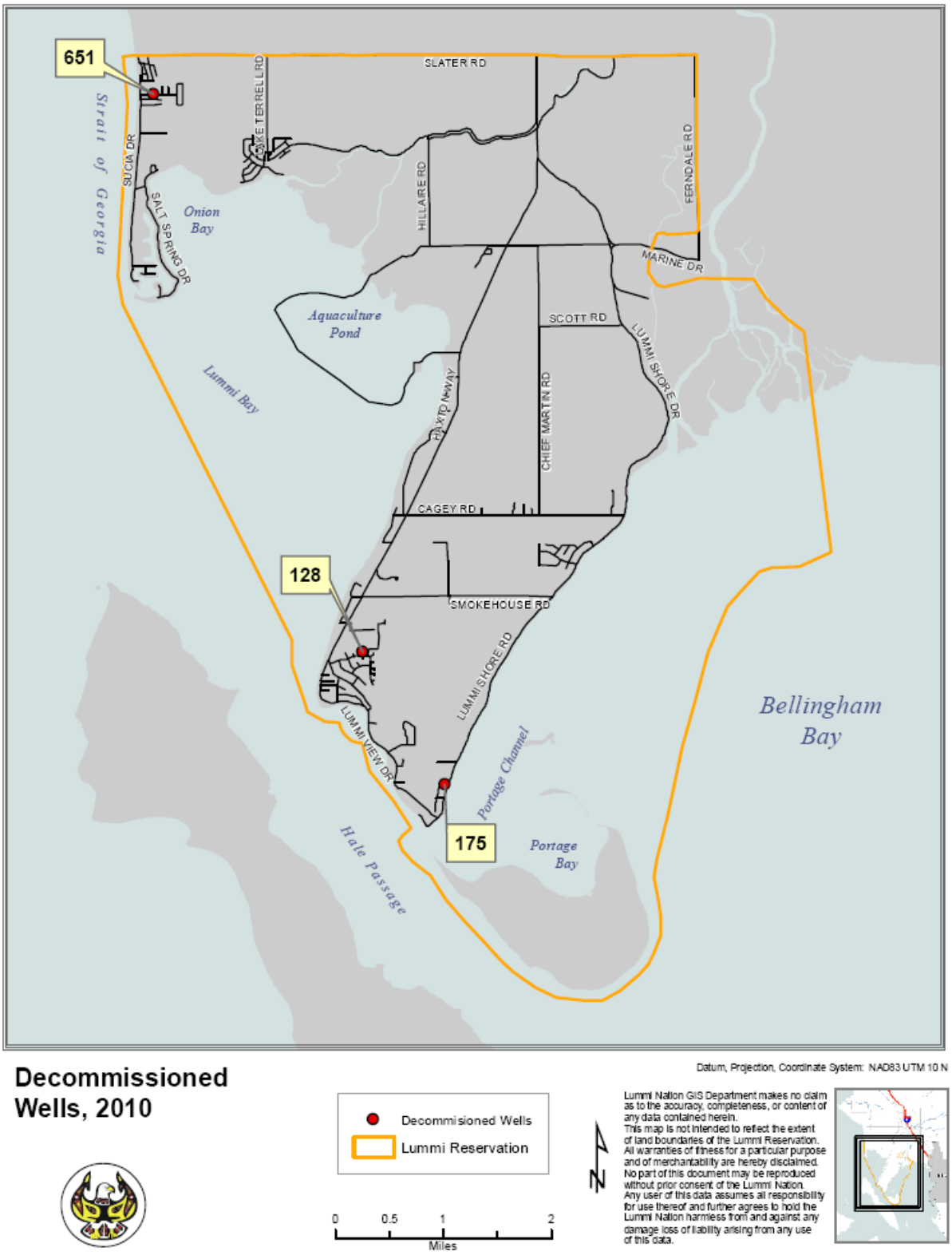


Figure 7. Locations of wells selected for decommissioning in 2010 on the Lummi Indian Reservation.

3.1. Well No. 128

Well No. 128 was located in the Mackenzie neighborhood just north of, and above Gooseberry Point. The well was selected for decommissioning because it was abandoned and vulnerable to contamination due to its location in a residential area (Appendix A). The well was evaluated for decommissioning in 2009, but there were administrative issues that precluded the work occurring in 2009. The Well Decommissioning Report (Appendix B) documents the decommissioning of the well. Figure 8 shows the well before and after decommissioning.

No problems were encountered during the decommissioning of the Mackenzie I well. However, construction of the well, and subsequent modification in the late 1990s to allow the well to be instrumented with a datalogger resulted in additional time to perform the decommissioning[1].

The small wellhouse and underlying concrete slab were demolished and removed from the site (the nearby fenced concrete block pumphouse was not addressed during this effort) on November 16, 2010. The next day, the pumpstring and access tube were removed and the wellhead sealed until work could resume. About two weeks later, a hole was dug around the wellhead to about 4 feet deep so that the casing-portion of the pitless unit could be removed to allow the perforator into the well. A temporary casing was then placed over the remaining casing (i.e., the casing below the pitless unit). The temporary casing had a sleeve that fit tightly over the remaining casing, and two, 50 lb bags of 3/8 inch unhydrated bentonite chips were placed outside and around the joint between the remaining and temporary casings, and the rest of the hole around the temporary casing refilled with the dirt that was removed when the hole was excavated. The temporary casing extended to 34-inches above the ground surface and the top was sealed. The next day the well was perforated from the bottom of the casing to the top (the temporary casing was not perforated). The perforation process resulted in the bottom 12.5 feet of the well filling with formation materials. Bentonite slurry (forty-two 50 lb bags) was then placed into the well from the bottom to near the top. The next morning the top of the bentonite slurry was 7 ft. below the ground surface. Bentonite slurry was then placed to the top of the temporary casing, the drillstem was then removed from the well, one bag of unhydrated chips placed into the well, and then the drillstem was used to push an 8-inch diameter plate and the underlying bentonite column down 18 feet into the well. The well was refilled to just below the ground surface, the temporary casing pulled, and six bags of unhydrated chips added to the remaining hole. Topsoil was placed over the bentonite, and grass seed was applied to the disturbed soils.

Originally the well was drilled in a wooded area, but over the years the Mackenzie neighborhood grew up around it. As of the mid-1990s, the production of the well was low due to suspected fouling of the screen (more drawdown for a given pumprate over time), and to increased chlorides at higher pumping levels. Later in the 1990s there were coliform bacteria issues with the well,

[1] The well construction included the casing-portion of a pitless unit that was a narrower diameter than the rest of the casing. This had to be removed and a temporary casing with a sleeve placed over the remaining casing below. Use of the water-supply-plumbing-portion of the pitless unit had been discontinued years previously (for the Lummi Peninsula Ground Water Study [Aspect 2003]), and the top of the wellhead and pumpstring modified so that pumped water would exit the well through the top (sanitary seal)(see last paragraph on p. 12 for more information). The re-plumbing of the well and modification of the wellhead were performed to allow the well to be operational and instrumented with a water level dagtalogger. The probe for the datalogger would not fit through the original pitless unit.

which may have been due to a sanitary seal in poor condition. The well was used for monitoring water levels during the Lummi Peninsula ground water study (Aspect, 2003), which resulted in the sanitary seal being improved and the construction of the small wellhouse. As, part of the monitoring effort, a sleeve was welded onto the top of the wellhead so that the plumbing could be changed to out-of-the-top with a sanitary seal (instead of a pitless) to allow a water level probe and datalogger to be placed in the well. At the time of decommissioning, the top of the access tube had orange survey marker paint on it, showing that the top of the access tube[2] was surveyed by Pacific Survey and Engineering, under Aspect Consulting, LLC as part of the Lummi Peninsula ground water study (Aspect, 2003).

[2] The elevation of the access tube measuring point varied prior to the Lummi Peninsula Water Study, when it was surveyed. It was not modified during or after the study. The variations are recorded in the field books used prior to 2006. The elevation of the access tube above the concrete slab was 26.625 inches, and the slab was about 4 inches thick. The LNR database shows a "Reference" (elevation) of 124.49 ft, and a "Surf_elev" of 122.04 ft, a difference of 29.4 inches. It is likely the database "Surf_elev" represents the ground surface elevation adjacent to the wellhouse.

(a)

(b)

(c)

Figure 8. Well No. 128 (Mackenzie 1) before decommissioning (a), during removal of the wellhouse (b), and after decommissioning (c). In (b), note the sleeve at the top of the well to accommodate plumbing through a sanitary seal instead of a pitless unit.

3.2. Well No. 175

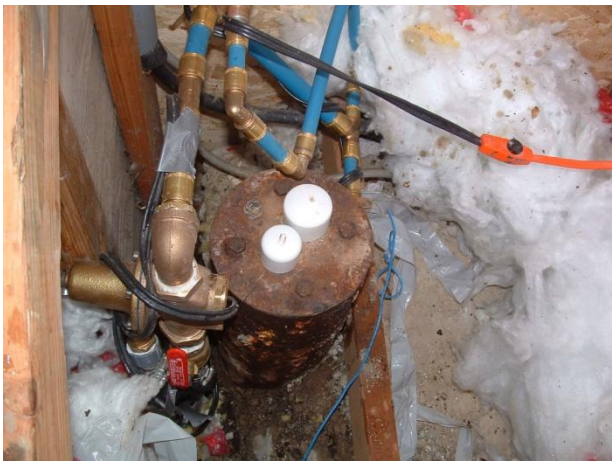
Well No. 175 is located immediately adjacent to the home at 2201 Lummi Shore Road in a residential shoreline development. The well is in a small enclosure attached to and between the house and the garage (Figure 9). Well No. 175 was decommissioned because it was abandoned and posed a contamination threat to ground water due to proximity to both the home and a marine shoreline (Appendix A). The Well Decommissioning Report (Appendix B) documents the decommissioning of the well. Figure 9 shows the well before and after decommissioning.

Poor access to the well prevented perforation of the well and placement of bentonite slurry from the bottom of the well. A secondary seal was not feasible due to proximity to the house foundation and incorporation with the garage foundation, as well as domestic plumbing in the immediate area of the well. Where the well entered the soil was dry during inspections and the work (Oct. to Dec.) and it appears that surface and roof drainage are diverted away from this area (the owner indicated that was the case, as there had been prior rot issues in that corner of the house).

No problems were encountered during the decommissioning. The pumpstring was removed, and the well filled with ten and one half, 50 lb bags of 3/8 inch unhydrated bentonite chips to within a few inches below the top of the casing. Excess water (estimated at 5 gallons) was removed with a pump to prevent flooding of the enclosure. The water was pumped into a 50 gallon drum and disposed of by B&C Well Drilling offsite. The sanitary seal was replaced at the top of the well casing, with two capped PVC pipes where the twin-tubes had been located.

Elevation control was poor due to a closed-in site with sloping ground. A level survey from a known elevation would be the simplest method to obtain an accurate elevation. The measuring point (MP) of the well is unchanged from prior to decommissioning.

(a)



(b)

Figure 9. Well No. 175 before (a) and after (b) decommissioning. In the upper right photo (a), the black arrow indicates the location of the well in the small structure attached to the house and garage.

3.3. Well No. 651

Well No. 651 is located at 4119 Germaine Road in a parking area near a home and close to Germaine Road. Well No. 651 was decommissioned because it was abandoned and vulnerable to contamination (Appendix A). The Well Decommissioning Report (Appendix B) documents the decommissioning of the well. Figure 10 shows the well before and after decommissioning.

Well No. 651 is located in a below-grade pumphouse and taps a water table aquifer. The water level in the well at the time of the planned decommissioning was above the floor of the pumphouse, and pumping the well at 40 gallons per minute (gpm) dropped the water level about one foot (below the bottom of the pumphouse) in mid-December.

One week later, the water level had dropped due to cold and dry weather, and there was not water in the pumphouse. Fifty-five bags of 3/8 inch unhydrated bentonite chips were placed into the well. The top of the chips was about even with the floor of the pumphouse. No water was displaced from the well into the pumphouse during placement of the chips. The next day, 4 cubic yards of concrete was placed into the top of the well and the pumphouse, to within a few inches of the ground surface. The well owner is going to cover the concrete with gravel at a later date.

(a)

(b)

Figure 10. Well No.651 pumphouse and well before (a) and after (b) decommissioning. The yellow arrow in (b) shows the location of the decommissioned well.

4. DISCUSSION

Three wells were decommissioned during 2010, bringing the total to 17 wells decommissioned and one monitoring well improved since 2006 (Figure 11). Overall, the well decommissioning effort conducted during 2010 was successful, removing three potential sources of contamination to Reservation aquifers. Another benefit of the well decommissioning effort was increasing community awareness about the location of wells and protecting ground water.

The 2010 well decommissioning effort proceeded smoothly despite a late start and small budget. The late start precluded addressing five of the six 2009 wells not decommissioned in 2009 (due to wet soil conditions), and the small budget also precluded taking the time required pursue other wells that have multiple owners that were identified in 2009.

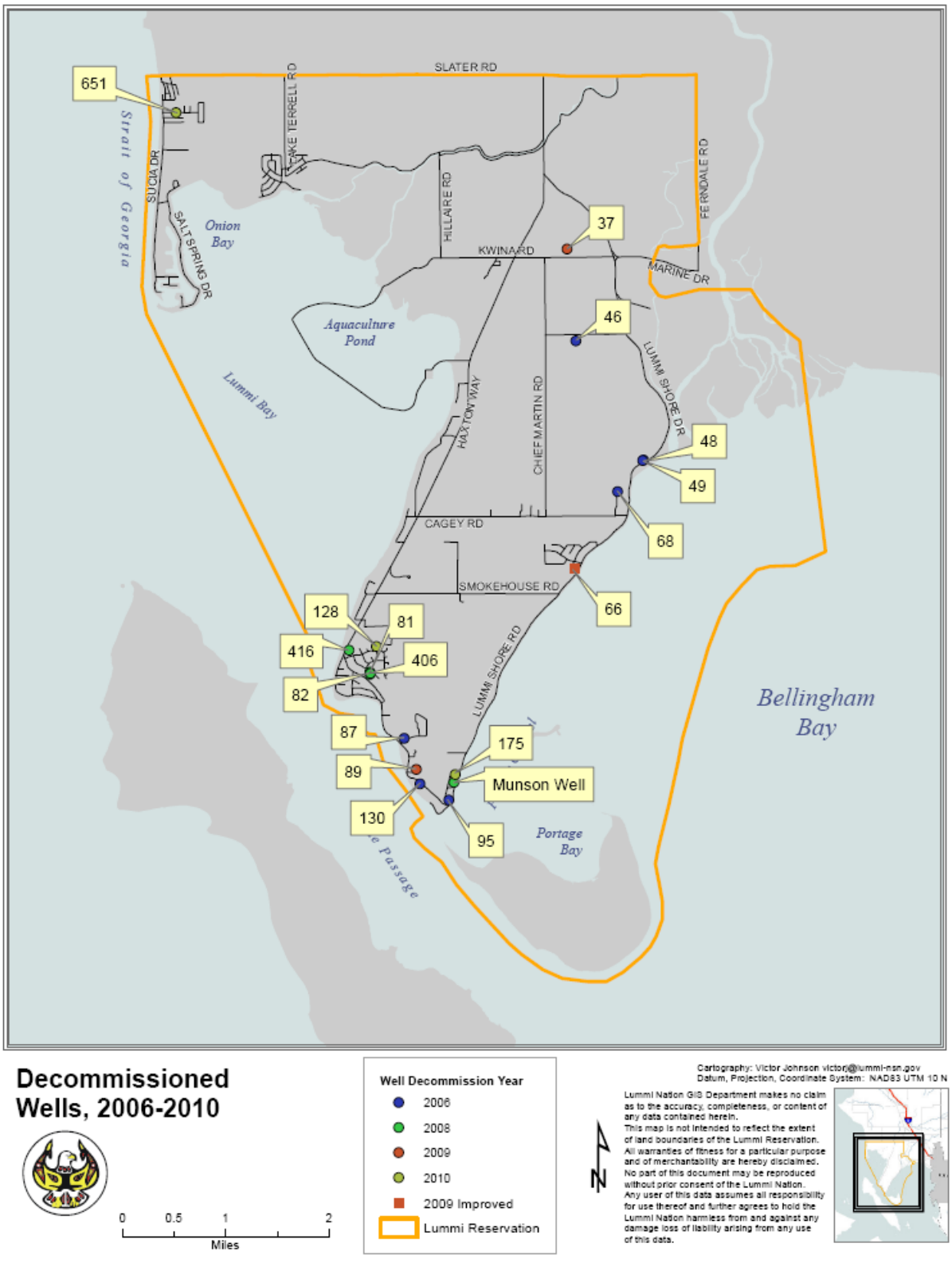


Figure 11. Wells decommissioned or improved in 2006, 2008, 2009, and 2010 on the Lummi Indian Reservation.

5. CONCLUSION

Three wells were decommissioned during 2010, bringing the total to 17 wells decommissioned and one monitoring well improved since 2006. As described in the Lummi Nation Non-Point Source Assessment (LWRD 2001) and the associated Non-Point Source Management Program (LWRD 2002), wells are a potential source of contamination to Reservation aquifers. Well decommissioning is a direct and effective method to eliminate potential contamination of Reservation aquifers. Additional wells remain to be decommissioned. The well decommissioning program should be continued.

6. REFERENCES

Aspect Consulting LLC. (Aspect). 2003. Lummi Peninsula Ground Water Investigation, Lummi Indian Reservation, Washington. Prepared for the Bureau of Indian Affairs.

Cline, D.R. 1974. A ground water investigation of the Lummi Indian Reservation area, Washington. Tacoma, U.S. Geological Survey, Open-File Report. 66 p.

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APPENDIX A. WELL DECOMMISSIONING EVALUATIONS

WORKSHEET FOR DETERMING IF ABANDONED WATER WELLS SHOULD BE MONITORING WELLS OR DECOMISSIONED

Criteria to determine if abandoned wells should be decommissioned or become candidates for use as a monitoring well. If the answer for questions 1 through 7 is "yes" then the well is a candidate for use as a monitoring well.

Well number, owner, and street address: *Lummi No. 128, directly across Eagle Ave. from Lady Rose Ct. and north of the playground.*

Person performing determination and date: *Andrew M. Ross, November 23, 2009*

Criteria Description	Sub-category/ Explanation	Actual Well Information	Evaluation	Answer (Yes or No)
1. Is the well in good condition?	Good, not good, or unknown. In rare situations, unknown condition may not preclude use as a monitoring depending upon location of the well and if sufficient information can be gathered about its condition.	*Good*	Good condition = Yes If unknown but important location and sufficient information gathered about condition = Yes Otherwise = No	*Yes*
2. Is the well unlikely to be a source of ground water contamination now or in the foreseeable future?	For example, is the well located at the bottom of a local depression?	*Well is in a neighborhood adjacent to a playground.*	Unlikely to be a source of contamination = Yes Otherwise = No	*No*
3. Is the well located a sufficient distance from current and foreseeable sources of contamination?	Case-specific. In general, are sources of contamination located or likely to be proximate to the well (e.g., septic tank, gas station).	*Proximity to existing homes a potential problem.*	Sources of current and foreseeable contamination unlikely to be proximate to the well = Yes Otherwise = No	*No*
4. Is the well unlikely to be influenced by factors which diminish the utility of the well to serve as a monitoring well?	For example, is the well shallow and close to home with a foundation drain?	*Unlikely*	Unlikely that well influenced by factors that diminish use as a monitoring well = Yes Otherwise = No	*Yes*
5. Is the well suitable for use as a monitoring well?	For example, is the well conducive to water level measurements or obtaining water quality measurements? Both water level and quality are not necessary, depending upon the location of the well.	*Yes, for water level. Plumbing improvements needed for water quality.*	Suitable for use as a monitoring well = Yes Otherwise = No	*Yes*
6. Is there a Well Log for the well?	• Well dimensions known? • Water level, production known? • Well construction details known? • Stratigraphy recorded and reliable? Not all information is necessary, depending upon location and need for monitoring well.	*Yes*	Sufficient information in well log = Yes Otherwise = No	*Yes*
7. Does the well tap an aquifer where additional information would be useful?	For example: • The aquifer is not tapped by other wells. • Are wells that tap the aquifer proximate or distant? • There is access to other wells that tap the aquifer. • Are aquifer characteristics or uses sufficiently variable or unique to warrant an additional monitoring well?	*Other wells tap the aquifer in the area (74, 127, 129, 419 and 420)*	Additional aquifer information at well location useful = Yes Otherwise = No	*No*

Check the appropriate result:

X decommission well, candidate for use as monitoring well, or further information is required.

Assessment Completed by: Date:

Concurrence by Water Resources Manager, Yes/No (circle one): Date:

State of Washington
Hydrogeologist
1454
Licensed Geologist
Andrew M. Ross

WORKSHEET FOR DETERMING IF ABANDONED WATER WELLS SHOULD BE MONITORING WELLS OR DECOMISSIONED

Criteria to determine if abandoned wells should be decommissioned or become candidates for use as a monitoring well. If the answer for questions 1 through 7 is "yes" then the well is a candidate for use as a monitoring well.

Well number, owner, and street address: *Lummi No. 175, Doug and Linda Parker Smith, 2201 Lummi Shore Road*
Person performing determination and date: *Andrew M. Ross, November 24, 2010*

Criteria Description	Sub-category/ Explanation	Actual Well Information	Evaluation	Answer (Yes or No)
1. Is the well in good condition?	Good, not good, or unknown. In rare situations, unknown condition may not preclude use as a monitoring depending upon location of the well and if sufficient information can be gathered about its condition.	*Unknown*	Good condition = Yes If unknown but important location and sufficient information gathered about condition = Yes Otherwise = No	*No*
2. Is the well unlikely to be a source of ground water contamination now or in the foreseeable future?	For example, is the well located at the bottom of a local depression?	*Well between house and garage, and adjacent to foundations of both; near marine shoreline.*	Unlikely to be a source of contamination = Yes Otherwise = No	*No*
3. Is the well located a sufficient distance from current and foreseeable sources of contamination?	Case-specific. In general, are sources of contamination located or likely to be proximate to the well (e.g., septic tank, gas station).	*Proximity to existing home and garage a potential problem.*	Sources of current and foreseeable contamination unlikely to be proximate to the well = Yes Otherwise = No	*No*
4. Is the well unlikely to be influenced by factors which diminish the utility of the well to serve as a monitoring well?	For example, is the well shallow and close to home with a foundation drain?	*Likely. Adjacent to foundations.*	Unlikely that well influenced by factors that diminish use as a monitoring well = Yes Otherwise = No	*No*
5. Is the well suitable for use as a monitoring well?	For example, is the well conducive to water level measurements or obtaining water quality measurements? Both water level and quality are not necessary, depending upon the location of the well.	*Water level possible, but proximity to foundations limits usefulness.*	Suitable for use as a monitoring well = Yes Otherwise = No	*No*
6. Is there a Well Log for the well?	• Well dimensions known? • Water level, production known? • Well construction details known? • Stratigraphy recorded and reliable? Not all information is necessary, depending upon location and need for monitoring well.	*No*	Sufficient information in well log = Yes Otherwise = No	*No*
7. Does the well tap an aquifer where additional information would be useful?	For example: • The aquifer is not tapped by other wells. • Are wells that tap the aquifer proximate or distant? • There is access to other wells that tap the aquifer. • Are aquifer characteristics or uses sufficiently variable or unique to warrant an additional monitoring well?	*Other wells tap the aquifer in the area (e.g., 147, 172-174, 150)*	Additional aquifer information at well location useful = Yes Otherwise = No	*No*

Check the appropriate result:
X decommission well, ☐ candidate for use as monitoring well, or ☐ further information required.

Assessment Completed by: Andrew M. Ross Date: 11/30/2010

Concurrence by Water Resources Manager, (Yes) No (circle one): Jeremy R. Freimund Date: 11/30/2010

State of Washington Licensed Geologist Hydrogeologist 1454 Andrew M. Ross

American Institute of Hydrology Certificate Number 1595 Jeremy R. Freimund Professional Hydrologist

WORKSHEET FOR DETERMINING IF ABANDONED WATER WELLS SHOULD BE MONITORING WELLS OR DECOMISSIONED

Criteria to determine if abandoned wells should be decommissioned or become candidates for use as a monitoring well. If the answer for questions 1 through 7 is "yes" then the well is a candidate for use as a monitoring well.

Well number, owner, and street address: *Lummi No. 651, Wayne Hutchinson, 4119 Germain Road*
Person performing determination and date: *Andrew M. Ross, November 24, 2010*

Criteria Description	Sub-category/ Explanation	Actual Well Information	Evaluation	Answer (Yes or No)
1. Is the well in good condition?	Good, not good, or unknown. In rare situations, unknown condition may not preclude use as a monitoring depending upon location of the well and if sufficient information can be gathered about its condition.	*Good, but plumbing removed and home connected to water system.*	Good condition = Yes If unknown but important location and sufficient information gathered about condition = Yes Otherwise = No	*Yes*
2. Is the well unlikely to be a source of ground water contamination now or in the foreseeable future?	For example, is the well located at the bottom of a local depression?	*Well is shallow, near home and Germain Road*	Unlikely to be a source of contamination = Yes Otherwise = No	*No*
3. Is the well located a sufficient distance from current and foreseeable sources of contamination?	Case-specific. In general, are sources of contamination located or likely to be proximate to the well (e.g., septic tank, gas station).	*Proximity to existing home and road a potential problem. Shallow water table aquifer.*	Sources of current and foreseeable contamination unlikely to be proximate to the well = Yes Otherwise = No	*No*
4. Is the well unlikely to be influenced by factors which diminish the utility of the well to serve as a monitoring well?	For example, is the well shallow and close to home with a foundation drain?	*Likely, pumphouse prone to flooding*	Unlikely that well influenced by factors that diminish use as a monitoring well = Yes Otherwise = No	*No*
5. Is the well suitable for use as a monitoring well?	For example, is the well conducive to water level measurements or obtaining water quality measurements? Both water level and quality are not necessary, depending upon the location of the well.	*No*	Suitable for use as a monitoring well = Yes Otherwise = No	*No*
6. Is there a Well Log for the well?	• Well dimensions known? • Water level, production known? • Well construction details known? • Stratigraphy recorded and reliable? Not all information is necessary, depending upon location and need for monitoring well.	*No, Well Inspection Form available.*	Sufficient information in well log = Yes Otherwise = No	*No*
7. Does the well tap an aquifer where additional information would be useful?	For example: • The aquifer is not tapped by other wells. • Are wells that tap the aquifer proximate or distant? • There is access to other wells that tap the aquifer. • Are aquifer characteristics or uses sufficiently variable or unique to warrant an additional monitoring well?	*Other wells nearby (e.g. 110, 402). Taps shallow water table aquifer.*	Additional aquifer information at well location useful Otherwise = No	*No*

Check the appropriate result:
X decommission well, ☐ candidate for use as monitoring well, or ☐ further information is required.

Assessment Completed by: Andrew M. Ross Date: 11/30/2010

Concurrence by Water Resources Manager: Yes No (circle one): Jeremy R. Freimund Date: 11/30/2010

State of Washington Licensed Geologist Hydrogeologist 1454 Andrew M. Ross

American Institute of Professional Hydrologists Certificate Number 1595 Jeremy R. Freimund Professional Hydrologist OF HYDROLOGY

APPENDIX B. INDIVIDUAL WELL DECOMMISSIONING REPORTS

WATER WELL DECOMMISSIONING REPORT

Lummi Indian Business Council – Lummi Water Resources Division

Lummi Well No: 123 TRS Code: 38N/01E-34J02
Lummi Well Permit No: NA
Other Identification: NA
Well Log Attached? ☒ Yes ☐ No ☐ Not Available

Use of Well: ☐ Domestic ☐ Industrial ☒ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☐ Other:

Reason for decommissioning: Abandoned

Dimensions of Well: Measured diameter of well 6 (in.) Measured depth of well 185 (ft.)

Construction/ Condition of Well: (MP = Measuring Point)
Casing material: Steel
Casing joint type: Welded
Surface seal present: ☒ Yes ☐ No ☐ Unknown
Surface seal condition: Poor
Screen Interval: 176.4 ~ 197.4
Pump and associated materials present? ☐ Yes ☐ No
Depth of pump intake from MP: 172.9 (feet)
Manufacturer: Franklin Type: Sub H.P. 1.5
Type of plumbing (i.e., pitless): Through
Other: Top of well

Obstructions: ☒ All obstructions removed:
☐ Pump, motor, drop pipe, wiring, & associated materials removed.
☐ Other:
☐ No obstructions were present in well at time of inspection.
☐ Not all obstructions removed. Provide explanation and how addressed during decommissioning in "Decommission Procedure" section.

Static Water Level: (Provide units for all measurements)
Water Level below (MP) (within approx.10 min.) and time:
122.06 at 10:30 (time)
122.06 at 10:31 (time)
122.06 at 10:33 (time)
Date of water level measurements: 11/16/10
Elevation of MP above mean sea level: 124.9
MP Description: Top of access Tube
MP Elevation above (+) or below (-) land-surface: + 2.45
Land-surface elevation above mean sea level: 122.04
Sources of MP and/or land surface elevation AND potential influences on water level: LNR Database PSE Survey Tides

Water Quality: Water quality sampled? ☐ Yes ☐ No. If yes, attach results on separate sheet.
Water quality issues with well? (Proyide sources): Chlorides Bacteria

Well Production While In Service:
Typical production: (gal/min.)
Drawdown: (feet) after hours.
Recovery: (feet) after (provide units)
Source (measured, estimated, owner/operator, documented, verbal, attach additional information):
Declined over time limited by Chlorides
Maximum production: (gal/min.)
Drawdown: (feet) after hours.
Recovery: (feet) after (provide units)
Source (measured, estimated, owner/operator, documented, verbal, attach additional information):
Changes and causes in production over life of well?

Property Owner Name(s): LIBC
Location:
Well Street Address: XXXX Eagle Ave Bellingham WA 98226
Section, Township, Range: NE 1/4-1/4 SE 1/4 Section 34 Township 38N Range 01E
Latitude/ Longitude: Lat N48 39427 Long W122.6637 (provide units to decimal degrees or minutes)
Source of latitude and longitude: LNR GIS
☐ USGS Quadrangle Map ☐ High Resolution Aerial Image
☐ Conventional survey ☐ Global Positioning System (GPS) Survey ☐ Mapping Grade GPS ☐ Recreational Grade GPS
GPS Accuracy: ± NA feet
Aerial Image source: Pictometery
Aerial Image resolution: (provide units)
Record datum if not WGS 84:
Tax Parcel No. Assignment No. T1016

DECOMMISSION PROCEDURE

Document method(s) of well decommissioning, including, but not limited to, methods of placement of sealing material, sealing materials used, quantity of sealing materials used, locations of sealing materials, location and resolution of obstructions that could not be removed, and treatment of well and ground surface at and near the ground surface.
USE ADDITIONAL SHEETS IF NECESSARY.

Material	From (ft)	To (ft)
Pulled pump Perforated		
Casing top to bottom fill		
With bentonite grout		
Applied pressure Removed		
pitless unit Covered with		
Top 30.1		

Start Date: 11/16/10 Completed Date: 12/3/10

WELL DECOMMISSIONING CERTIFICATION: I decommissioned and/or accept responsibility for decommissioning of this well, and its compliance with all acceptable well decommissioning standards for the profession. Materials used and the information reported above are true to the best of my knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee Name (Print): Bill Clothier	Drilling Company: B&C Well Drilling
Driller/Engineer/Trainee Signature: Bill Clothier	Address: 999 Kelly
Driller or trainee License No: 0095	City, State, Zip: Bellingham WA 98226
If TRAINEE, Driller's Licensed No: **Driller's Signature:**	Contractor's Registration No: BCWELD*947PB Date: 1/12/11

The Lummi Indian Business Council does NOT warranty the Data and/or Information in this Well Decommissioning Report.

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

Mack I

WATER WELL REPORT
STATE OF WASHINGTON

128 38N/01E-34J02

Permit No. ....

(1) OWNER: Name McKenzie Site Address Lummi

(2) LOCATION OF WELL: County Whatcom — NW ¼ SE ¼ Sec. 34 T. 38N N., R. 1E W.M.

Bearing and distance from section or subdivision corner

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one)....
New well ☒ Deepened ☐ Reconditioned ☐
Method: Dug ☐ Cable ☒ Rotary ☐ Bored ☐ Driven ☐ Jetted ☐

(5) DIMENSIONS: Diameter of well 8 inches.
Drilled 190 ft. Depth of completed well 189-5½ ft.

(6) CONSTRUCTION DETAILS:

Casing installed: ....." Diam. from ..... ft. to ..... ft.
Threaded ☐ ....." Diam. from ..... ft. to ..... ft.
Welded ☒ 8" Diam. from +2 ft. to 177-7½ ft.

Perforations: Yes ☐ No ☒
Type of perforator used.....
SIZE of perforations ..... in. by ..... in.
..... perforations from ..... ft. to ..... ft.
..... perforations from ..... ft. to ..... ft.
..... perforations from ..... ft. to ..... ft.

Screens: Yes ☒ No ☐
Manufacturer's Name Johnson
Type Stainless Model No.....
Diam. ..... Slot size ..... from ..... ft. to ..... ft.
Diam. 8 Slot size .015 from 176-10¼ to 187-5 ft.

Gravel packed: Yes ☐ No ☒ Size of gravel: .....
Gravel placed from ..... ft. to ..... ft.

Surface seal: Yes ☒ No ☐ To what depth? 25 ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes ☐ No ☒
Type of water?..... Depth of strata.....
Method of sealing strata off.....

(7) PUMP: Manufacturer's Name.....
Type: ..... H.P. .....

(8) WATER LEVELS: Land-surface elevation above mean sea level..... ft.
Static level 123-4" ft. below top of well Date 6-16-82
Artesian pressure ..... lbs. per square inch Date.....
Artesian water is controlled by..... (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☒ No ☐ If yes, by whom? Lowest
Yield: 68 gal./min. with ..... ft. drawdown after 12½ hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
~~123-4"~~					

Date of test 6-16-82
Bailer test ..... gal./min. with ..... ft. drawdown after ..... hrs.
Artesian flow ..... g.p.m. Date .....
Temperature of water..... Was a chemical analysis made? Yes ☒ No ☐

(10) WELL LOG:

Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
Silty loam Brown	0	2
Sand Gravel "	2	3
Clay Sand Gravel Boulders Compact	3	24
Sand clay Seep "	24	56
Gravel sand clay silts "	56	81
Sand clay silts "	81	87
Gravel sand clay silts "	87	94
Clay Sand Gravel Compact "	94	96
Sand clay, silts "	96	128
Sand Gravel water "	128	139
Sand, water Grey	139	148
Clay silts Dark Brown	148	161
Clay Grey	161	172
Sand some Gravel water "	172	190
?	190	—

Screen Discription
Johnson 8 slot 5½' Tail pipe, 1¾ Riser, & K Packer
Total length 14...

Work started 5-26, 1982 Completed 6-16, 1982

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Carpenter Drilling (Person, firm, or corporation) (Type or print)

Address 1602 33rd ne, Olympia, WA

[Signed] Ron West (Well Driller)

License No. 0994 Date 6-10, 1982

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20

WATER WELL DECOMMISSIONING REPORT

Lummi Indian Business Council – Lummi Water Resources Division

Lummi Well No: 175 TRS Code: 37N/01E-02K05
Lummi Well Permit No: N/A
Other Identification: N/A
Well Log Attached? ☐ Yes ☒ No ☐ Not Available

Use of Well: ☒ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☐ Other:

Reason for decommissioning: No longer Used

Dimensions of Well: Measured diameter of well 6 (in.) Measured depth of well 47.5 (ft.)

Construction/ Condition of Well: (MP = Measuring Point)
Casing material: Steel
Casing joint type: Unk
Surface seal present: ☐ Yes ☐ No ☒ Unknown
Surface seal condition: Unk
Screen Interval: Unk
Pump and associated materials present? ☒ Yes ☐ No
Depth of pump intake from MP: 35.9 (feet)
Manufacturer: A.O. Smith Type: Jet H.P. 1
Type of plumbing (i.e., pitless): Twin Pipe
Other: Through top of Well

Obstructions:
☒ All obstructions removed:
☒ Pump, motor, drop pipe, wiring, & associated materials removed.
☐ Other:
☐ No obstructions were present in well at time of inspection.
☐ Not all obstructions removed. Provide explanation and how addressed during decommissioning in "Decommission Procedure" section.

Static Water Level: (Provide units for all measurements)
Water Level below (MP) (within approx.10 min.) and time:
13.9 at 13:58 (time)
13.9 at 13:59 (time)
13.9 at 14:01 (time)
Date of water level measurements: 9/10/2010
Elevation of MP above mean sea level: 19
MP Description: Top of Sanitary Seal
MP Elevation above (+) or below (-) land-surface: +0.1
Land-surface elevation above mean sea level: 17
Sources of MP and/or land surface elevation AND potential influences on water level: Poor elevation Control Tides

Water Quality: Water quality sampled? ☐ Yes ☐ No. If yes, attach results on separate sheet.
Water quality issues with well? (Provide sources): Poor aesthetics

Well Production While In Service:
Typical production: 2.5 (gal/min.)
Drawdown: (feet) after hours.
Recovery: (feet) after (provide units)
Source (measured, estimated, owner/operator, documented, verbal, attach additional information): /
Maximum production: (gal/min.)
Drawdown: (feet) after hours.
Recovery: (feet) after (provide units)
Source (measured, estimated, owner/operator, documented, verbal, attach additional information):
Changes and causes in production over life of well? Checked 1995 decreased since then

Property Owner Name(s): Doug & Linda Parker Smith
Location:
Well Street Address: 2201 Lummi Shore Rd
Bellingham WA 98226
Section, Township, Range: NW 1/4-1/4 SE 1/4 Section 2 Township 37N Range 01E
Latitude/ Longitude: Lat N48.721557 Long W122.647183 (provide units to decimal degrees or minutes)
Source of latitude and longitude: LNR GIS
☐ USGS Quadrangle Map ☐ High Resolution Aerial Image
☐ Conventional survey ☐ Global Positioning System (GPS) Survey ☐ Mapping Grade GPS ☐ Recreational Grade GPS
GPS Accuracy: ± NA feet
Aerial Image source: Pictometery
Aerial Image resolution: (provide units)
Record datum if not WGS 84:
Tax Parcel No 370102360136 Assignment No.

DECOMMISSION PROCEDURE

Document method(s) of well decommissioning, including, but not limited to, methods of placement of sealing material, sealing materials used, quantity of sealing materials used, locations of sealing materials, location and resolution of obstructions that could not be removed, and treatment of well and ground surface at and near the ground surface.
USE ADDITIONAL SHEETS IF NECESSARY.

Material	From (ft)	To (ft)
Removed pump equipment		
Filled to top of casing with		
3/8" Bentonite Chips Sealed		
with Sanitary Seal		

Start Date: 12/1/10 Completed Date: 12/1/10

WELL DECOMMISSIONING CERTIFICATION: I decommissioned and/or accept responsibility for decommissioning of this well, and its compliance with all acceptable well decommissioning standards for the profession. Materials used and the information reported above are true to the best of my knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee Name (Print): Bill Clothier
Driller/Engineer/Trainee Signature:
Driller or trainee License No: 0085
If TRAINEE, Driller's Licensed No:
Driller's Signature:

Drilling Company: K & C Well Drilling
Address: 988 Kelly Rd
City, State, Zip: Bellingham WA
Contractor's Registration No: BCWELD*P947P Date: 1/12/11

The Lummi Indian Business Council does NOT warranty the Data and/or Information in this Well Decommissioning Report.

WATER WELL DECOMMISSIONING REPORT

Lummi Indian Business Council – Lummi Water Resources Division

Lummi Well No: 651 TRS Code: _____
Lummi Well Permit No: N/A
Other Identification: N/A
Well Log Attached? ☒ Yes ☐ No ☐ Not Available

Use of Well: ☒ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☐ Other: _____

Reason for decommissioning: No longer Used

Dimensions of Well: Measured diameter of well 24 (in.) Measured depth of well 22.7 (ft.)

Construction/ Condition of Well: (MP = Measuring Point)
Casing material: 0-3 PVC 3-22.7 Concrete
Casing joint type: UKN
Surface seal present: ☒ Yes ☐ No ☐ Unknown
Surface seal condition: Cement
Screen Interval: UKN
Pump and associated materials present? ☐ Yes ☒ No
Depth of pump intake from MP: NA (feet)
Manufacturer: UKN Type: UKN H.P. UKN
Type of plumbing (i.e., pitless): _____
Other: Through top of well in Pit

Obstructions:
☒ All obstructions removed.
☐ Pump, motor, drop pipe, wiring, & associated materials removed.
☐ Other: _____
☐ No obstructions were present in well at time of inspection.
☐ Not all obstructions removed. Provide explanation and how addressed during decommissioning in "Decommission Procedure" section.

Static Water Level: (Provide units for all measurements)
Water Level below (MP) (within approx 10 min.) and time:
17.09 at 9:00 (time)
17.09 at 9:01 (time)
17.09 at 9:02 (time)
Date of water level measurements: 9/16/10
Elevation of MP above mean sea level: 23.92
MP Description: Top of PVC Casing
MP Elevation above (+) or below (-) land-surface: +.21
Land-surface elevation above mean sea level: 23.71
Sources of MP and/or land surface elevation AND potential influences on water level: LIDAR, Tidal Surface Water Flooding well pit

Water Quality:
Water quality sampled? ☒ Yes ☐ No. If yes, attach results on separate sheet.
Water quality issues with well? (Provide sources): Potential Salt Water Intrusion

Well Production While In Service:
Typical production: Adequate (gal/min.)
Drawdown: _____ (feet) after _____ hours.
Recovery: _____ (feet) after _____ (provide units)
Source (measured, estimated, owner/operator, documented, verbal, attach additional information): Supplied Small Community Water
Maximum production: _____ (gal/min.) Supply
Drawdown: _____ (feet) after _____ hours.
Recovery: _____ (feet) after _____ (provide units)
Source (measured, estimated, owner/operator, documented, verbal, attach additional information): _____
Changes and causes in production over life of well? _____

Property Owner Name(s): Wayne Hutchins
Location:
Well Street Address: 4119 Germaine Ferndale WA 98248
Section, Township, Range: SE 1/4-1/4 NE 1/4 Section 5 Township 39N Range 01E
Latitude/ Longitude: Lat 48.814229 Long -122.705619 (provide units to decimal degrees or minutes)
Source of latitude and longitude: LNR GIS
☐ USGS Quadrangle Map ☐ High Resolution Aerial Image
☐ Conventional survey ☐ Global Positioning System (GPS) Survey ☐ Mapping Grade GPS ☐ Recreational Grade GPS
GPS Accuracy: ± NA feet
Aerial Image source: Photometry
Aerial Image resolution: _____ (provide units)
Record datum if not WGS 84: _____
Tax Parcel No. 3901055573 Assignment No. _____

DECOMMISSION PROCEDURE

Document method(s) of well decommissioning, including, but not limited to, methods of placement of sealing material, sealing materials used, quantity of sealing materials used, locations of sealing materials, location and resolution of obstructions that could not be removed, and treatment of well and ground surface at and near the ground surface.
USE ADDITIONAL SHEETS IF NECESSARY.

Material	From (ft)	To (ft)
Removed PVC Casing		
Filled with 3/8 Bentonite		
Chips to 1' below top		
of Concrete casing filled		
pit with cement to 4"		
below grade		

Start Date: 12/29/10 Completed Date: 12/29/10

WELL DECOMMISSIONING CERTIFICATION: I decommissioned and/or accept responsibility for decommissioning of this well, and its compliance with all acceptable well decommissioning standards for the profession. Materials used and the information reported above are true to the best of my knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee Name (Print): Bill Clothier
Driller/Engineer/Trainee Signature: Bill Clothier
Driller or trainee License No: 0085
If TRAINEE, Driller's Licensed No: _____
Driller's Signature: _____

Drilling Company: B & C Well Drilling
Address: 999 Kelly
City, State, Zip: Bellingham WA 98226
Contractor's Registration No: B&CWELDP994MP6 Date: 1/12/11

The Lummi Indian Business Council does NOT warranty the Data and/or Information in this Well Decommissioning Report.

38-1E 5A

WATER WELL REPORT

RECEIVED
SEP 18 2006
DEPT. OF ECOLOGY

Original & 1st copy – Ecology, 2nd copy – owner, 3rd copy – driller

Construction/Decommission *("x" in circle)*

○ Construction

○ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

CURRENT
Notice of Intent No. N/A
Unique Ecology Well ID Tag No. APR 263
Water Right Permit No. _____
Property Owner Name Wayne Hutchinson
Well Street Address 4119 Clemmaine
City Ferndale County Whatcom
Location NE 1/4-1/4 NE 1/4 Sec 5 Twn 39 R 1 (EWM) or WWM circle one
Lat/Long (s, t, r Still **REQUIRED**) Lat Deg _____ Lat Min/Sec _____ Long Deg _____ Long Min/Sec _____
Tax Parcel No. N/A 380105 551361

PROPOSED USE: ☒ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☐ Other _____

TYPE OF WORK: Owner's number of well (if more than one) _____
☐ New well ☐ Reconditioned *Method:* ☒ Dug ☐ Bored ☐ Driven ☐ Deepened ☐ Cable ☐ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 24 inches, drilled 27 ft.
Depth of completed well 27 ft.

CONSTRUCTION DETAILS
Casing Installed: ☐ Welded 24 " Diam. from 2.5 ft. to 27 ft.
☐ Liner installed _____ " Diam. from _____ ft. to _____ ft.
☐ Threaded _____ " Diam. from _____ ft. to _____ ft.

Perforations: ☐ Yes ☐ No
Type of perforator used OKM
SIZE of perfs _____ in. by _____ in. and no. of perfs _____ from _____ ft. to _____ ft.

Screens: ☐ Yes ☐ No ☐ K-Pac Location _____
Manufacturer's Name OKM
Type _____ Model No. _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: ☐ Yes ☐ No ☐ Size of gravel/sand OKM
Materials placed from _____ ft. to _____ ft.

Surface Seal: ☒ Yes ☐ No To what depth? Sge Notes
Material used in seal Cement
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

WATER LEVELS: Land-surface elevation above mean sea level _____ ft.
Static level 18 ft. below top of well Date 9/4/06
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (cap, valve, etc.)

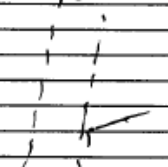
WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? ☒ Yes ☐ No If yes, by whom? B+C
Yield: 5 gal./min. with 4 ft. drawdown after 1 hrs.
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test 9/4/06
Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? ☐ Yes ☒ No

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Well Inspection + Pump Test only		
	Ground	
	Cement + Flown	Pit
	24" Tile	
Recomend that the Casing be brought up to 1.5FT above Grade cement Tile Joints and drop pipe hole Through Casing		

Start Date 9/4/06 Completed Date 9/4/06

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☒ Driller ☐ Engineer ☐ Trainee Name (Print) Bob L. Clothier
Driller/Engineer/Trainee Signature _____
Driller or trainee License No. 0085

Drilling Company B+C Well Drilling
Address 388 Kelly
City, State, Zip Bellingham WA
Contractor's Registration No. BCWELDR097K2 Date 9/8/06

If TRAINEE,
Driller's Licensed No. _____
Driller's Signature _____

Ecology is an Equal Opportunity Employer.

ECY 050-1-20 (Rev 3/05) **The Department of Ecology does NOT warranty the Data and/or Information on this Well Report.**